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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/412,510 10/05/99 ITOH

K 0756-2045

SIXBEY FRIEDMAN LEEDOM & FERGUSON PC  
8180 GREENSBORO DRIVE  
SUITE 800  
MCLEAN VA 22102

IM62/0901

EXAMINER

PADGETT, M

ART UNIT

PAPER NUMBER

5

1762

DATE MAILED:

09/01/00

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks****BEST AVAILABLE COPY**

## Office Action Summary

Application No.  
09/412,570Applicant(s)  
Itab et al

Examiner

M.L. Padgett

Group Art Unit

1762

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

Responsive to communication(s) filed on 5/3/00  
 This action is FINAL.  
 Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

Claim(s) 1-17 is/are pending in the application.  
 Of the above claim(s) 16-17 is/are withdrawn from consideration.  
 Claim(s) \_\_\_\_\_ is/are allowed.  
 Claim(s) 1-15 is/are rejected.  
 Claim(s) \_\_\_\_\_ is/are objected to.  
 Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.  
 The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.  
 The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.  
 The specification is objected to by the Examiner.  
 The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
 All  Some\*  None of the CERTIFIED copies of the priority documents have been  
 received.  
 received in Application No. (Series Code/Serial Number) 08/604,713.  
 received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

### Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). 2  Interview Summary, PTO-413  
 Notice of Reference(s) Cited, PTO-892  Notice of Informal Patent Application, PTO-152  
 Notice of Draftsperson's Patent Drawing Review, PTO-948  Other \_\_\_\_\_

## Office Action Summary

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1. Applicant's election without traverse of Group I, method claims 1-15 in Paper No. 4 is acknowledged.
2. Applicant's need to amend the first page of their specification to show the appropriate continuing data concerning 08/173,961, abandon and 08/604,714 now P.N. 6,001,431.
3. The disclosure is objected to because of the following informalities: Proofreading is needed. Problems in the specification as discussed in the parent case and corrected therein, are repeated here, hence again need correction.

Appropriate correction is required.

4. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the preamble is not commensurate in scope with the single process step, as there is no substrate treated by the claimed plasma. Also "the form" lacks proper antecedent basis in claims 1, 8 and 14.

In claims 4, 7 and 10-11 "... gas is flown into..." is non-idiomatic English, as is "a cross section in parallel to ...". In claim 5 "length thereof" and "width thereof" to not clearly claim what they are related to. While it may be guessed, it needs to be clearly stated. Claim 6 has a like problem.

In claim 8, last line "an said substrate" needs its double article corrected.

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In claim 13 the entire plasma containing "a methyl group" does not appear to be a logical claim, because the presence of a single -CH<sub>3</sub> group is nothing more than the presence of a very minor contaminant.

In claims 14, line 4 "-for" appears to have a typographical error. Claim 14 is further unclear as to where the diamond-like carbon film is being formed, as no deposition thereof is ever claimed. While an organic resin film is passed through the chamber, no relationship between the two films is ever claimed.

5. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4, 8 and 10 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1, 5, 9-11, 15, 19 and 21 of prior U.S. Patent No. 6,001,431. This is a double patenting rejection.

Note that while the patent claims contain more limitations or description than the present claims, all features of the instant claims are contained in the patent claims.

7. Claims 3, 5-7, 9, 11 and 13-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,001,431. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

While the patent claims do not claim (1) specific pressures in the chamber; or (2) cross-sectional ratios; or (3) a plurality of gas ports in a line; or (4) a feed roll apparatus used in the process, these separately claimed limitations would have been obvious to one of ordinary skill in the art, because (1) the pressures used in the plasma process would have been optimized for particular gases and chamber configurations; (2) the cross-sectional ratios of the plasma plane/sheet or the slit are consistent with the patent's description as illustrated in its claim 4, and in order to be called a plane or a sheet the width must be significantly less than the length and

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height, such that the claimed ratios would be expected for both the plasma dimensions and the gas input that enables its formation; (3) the claim of a plurality of gas ports in a line does not give any clear indication of their effect, however two possibilities present themselves, the formation of multiple successive planes of plasma as in patent claim 5, or the use of multiple closely spaced gas inputs that produce the same gas flow effect as a single continuous slit, where the first possible meaning can be considered equivalent to patent limitations, and the second provides an obvious alternative structure that would have been expected to produce an equivalent effect; and (4) patent claims, such as 2 claim the coating of magnetic tapes which are moved under the claimed plasma, hence since magnetic tapes are old and well known to use substrates of organic resin films, which need a roll - to - roll feeding process for their continuous coating that is implied in the patent claims, it would have been expected to use such an old and well known configuration in the magnetic tape coating.

8. Art showing the use of roll to roll feed as claimed includes Takahashi et al, Murai et al and Fujioka et al.

9. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al, in view of Fujioka et al or Nakatani et al, and further in view of Karner et al.

Takahashi discloses a method of producing a magnetic recording medium by forming a ferromagnetic metallic film on a non-magnetic medium followed by the formation of a protective layer (col. 2 line 66 - col. 3 line 6) using a roll to roll continuous coating apparatus. The protective layer can be diamond-like carbon (col. 4, lines 60-68 and col. 6, lines 34-36) and CH

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type reactive gasses at partial pressures of 0.5 - .001 torr are employed. However, Takahashi fails to teach plasma in the form of a plane. It is well known in the art to manipulate the geometrical configuration of a plasma to the configuration of the substrate surface in order to obtain uniformity of the film thickness. Hence, it would have been obvious to utilize a plasma in the form of a plane, because of the reason indicated above, and for further reasons discussed below with respect to Karner et al.

Fujioka et al ('116) (see Figs. 1-2 and Abstract) or Nakatani et al ('917) (see Fig. 1 and Abstract) teaches a continuous plasma CVD process of depositing a film on a moving substrate. Fujioka et al or Nakatani et al do not teach a plurality of inlets for the plasma perpendicular to the moving substrate. (Note Takahashi's electrodes 32 and 27 show a plurality of openings through which gas will flow, but they are not discussed.)

Karner et al teaches (see Figs. 5-6 and col. 9, line 41 through col. 10, line 47) a plasma treatment for the surface of a substrate, wherein a reactive gas is introduced into a treatment chamber through a plurality of inlet openings 9 in a uniformly distributed manner. Therefore, it would have been expected to one skilled in the art that plasma generated in the chamber would have been in the plane form (i.e. sheet beam plasma).

It would have been obvious to one of ordinary skill in the art to have applied a sheet beam plasma as suggested by Karner et al in the conventional plasma CVD process of Fujioka et al or Nakatani et al, because the use of the sheet beam plasma would lead to the formation uniform films on substrates.

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As stated above, Takahashi et al does not teach generating a sheet beam plasma as claimed, however, the claimed sheet beam plasma would have been obvious to one of ordinary skill in the plasma CVD art in view of Fujioka et al or Nakatani et al, and Karner et al for the same reason discussed above.

10. It is further noted that claims 1-7 which are generic as to use and coating could have been rejected over just Fujioka et al or Nakatani et al in view of Karner et al. Also that comments made in the parent cases by Mr. King (repeated below) remain applicable to these broad or minimally described processes.

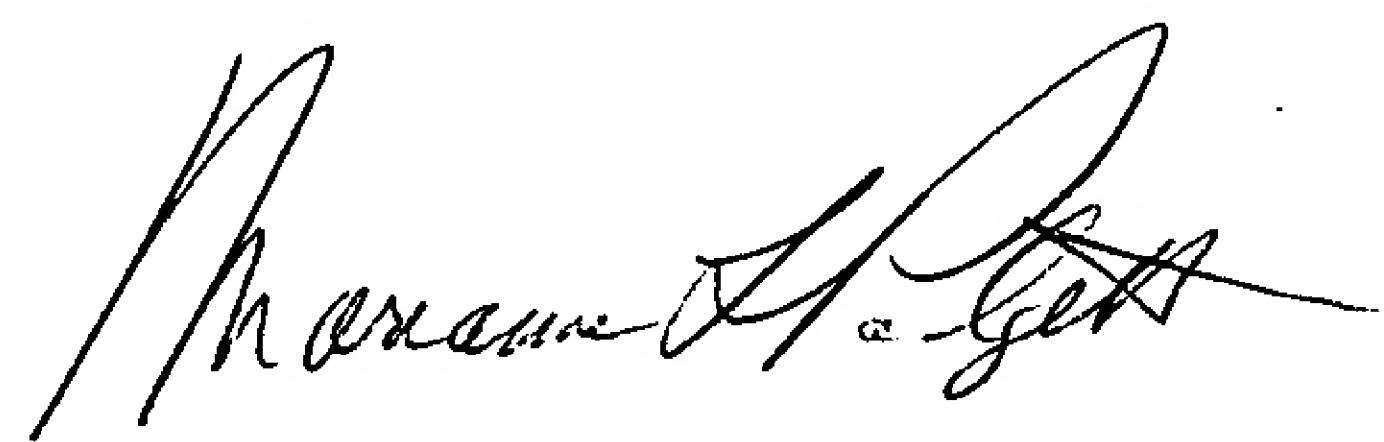
Murai et al is equivalent to Takahashi et al for magnetic films and running processes, but lacks the diamond like teaching. Applicants were reminded that the claims 7 and 11 merely recited in the inlet (port) rather than process or slits provided on the surface of the electrode as asserted. It is well known in the plasma CVD art as evidenced by Murai et al cited in the record, that material gas can be introduced via an inlet provided on a surface of a hollow electrode (see Murai et al, col. 4, lines 31-43 and col. 5, lines 14-15), and an AC and/or DC electric voltage can be applied to the electrode for producing plasma. The grounded electrode has commonly been used in the plasma CVD art, wherein an AC and/or DC electric voltage is applied between two electrodes for producing plasma. The Examiner further maintains the position that it is well known in the plasma CVD art to manipulate the geometrical configuration of plasma to the configuration of the substrate surface in order to obtain uniformity of the film thickness, therefore, it would have been obvious to utilize a plasma in the form of a plane as claimed. (For example,

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plane type plasma has been used in making diamond-shaped carbon films by plasma CVD as evidenced by Otta et al which discloses a plasma CVD process for forming a diamond-shaped carbon film using a plane type plasma).

11. Any inquiry concerning this communication should be directed to M.L. Padgett at telephone number (703) 308-2336 and FAX #(703) 305-5408 (official) or 305-6078 (unofficial).

M.L. Padgett/om  
August 25, 2000  
August 31, 2000



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